BioNanoScience 2017 vol.7 N2, pages 340-344

Effect of Solid Dispersions on the Dissolution of Ampicillin

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Abstract

© 2016, Springer Science+Business Media New York.In this work, we studied water solubility of ampicillin trihydrate and its solid dispersions (SD) with polyethylene glycol-1500, polyvinylpyrrolidone-10000, and β-cyclodextrin. It was found that SD formation increases the solubility by a factor of 1.34–1.73 and the rate of ampicillin dissolution by a factor of 3.43–7.40. The results of complex physicochemical studies suggest that the improved release of ampicillin from SD is due to its micronization and solubilization by the polymer.

http://dx.doi.org/10.1007/s12668-016-0342-6

Keywords

Ampicillin trihydrate, Polyethylene glycol-1500 (PEG), Polyvinylpyrrolidone-10000 (PVP), Solid dispersions, Solubility, β-Cyclodextrin

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